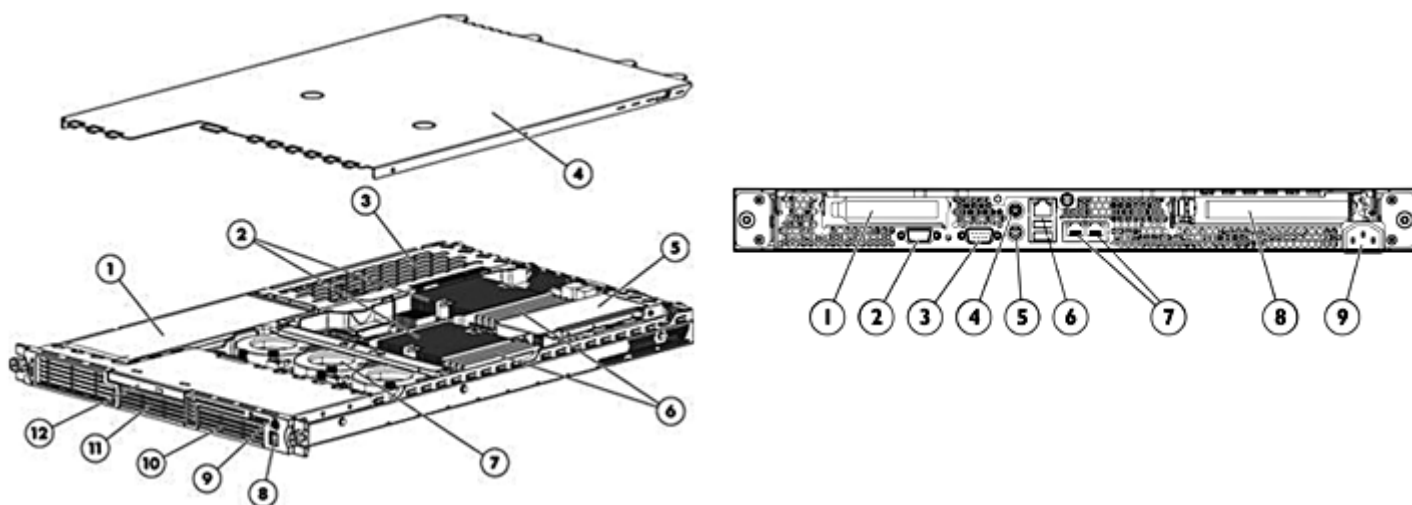


Overview

Non-Hot Plug SATA Models



Front View:

1. Power Supply
2. 2 AMD Opteron™ 2200 series processors
3. Full-length PCI-Express or HTX slot
4. Access panel
5. Low-profile PCI-Express or PCI-X slot
6. Memory banks
7. System Fans
8. Front-panel USB ports
9. Power switch/system status LEDs
10. 3.5" Hot-plug SAS/SATA or 3.5" Non-hot plug SATA drive
11. 3.5" Hot-plug SAS/SATA or 3.5" Non-hot plug SATA drive
12. Optional CD- or DVD/CDRW drive

Rear View:

1. Low Profile Riser Board Assembly Slot Cover
2. Video Port
3. Serial Port
4. PS/2 Mouse Port
5. PS/2 Keyboard Port
6. Lights Out 100 10/100 Mbps LAN Port for IPMI Management (RJ45) (Two)
7. GbE LAN Port for NIC 1 and 2 (RJ45) (Two)
8. Full-Sized Riser Board Assembly Slot Cover
9. Power Supply

What's New

- Support for 72 GB, 146 GB and 300 GB Serial-Attached SCSI (SAS) DP Hot Plug Hard Drives

At A Glance

- **Processors:**
 - Supports up to two AMD Opteron™ 2200 series processors
 - Supports up to dual-core 2.8GHz, 1MB cache processors
 - Supports DirectConnect Architecture
- **Memory:**
 - 8 DIMM slots supporting up to 32GB REG PC2-5300 DDR2-667 MHz memory with Advanced ECC
- **Internal Drive Support:**

Overview

- Supports up to two:
 - Hot Plug Serial Attached SCSI (SAS) 3.5"/Serial ATA (SATA) hard drives, or;
 - Non-Hot Plug Serial ATA (SATA) 3.5" hard drives
- Internal storage capacity of up to 1.5TB (2 x 750GB hot plug 3.5" SATA hard drives), or 600GB (2 x 300GB hot plug 3.5" SAS hard drives)
- **Network Controller:**
 - NC326i PCIe Dual Port Gigabit Server Adapter
- **Storage Controllers:**
 - HP Embedded SATA Controller on Non-Hot Plug SATA Models
 - HP Smart Array E500/256MB Controller
 - HP Smart Array E200 Controller with 64 MB cache, optional
 - HP 8 Internal Port SAS HBA with RAID 0,1 on Hot Plug SATA/SAS Models
 - HP SC44Ge Host Bus Adapter
 - HP SC11Xe Host Bus Adapter
- **Expansion Slots:**
 - Standard - PCI-Express assembly includes:
 - Slot 1: full-length/full height PCI-Express x16
 - Slot 2: half-length/low-profile PCI-Express x4 (x8 connector)
 - Optional - PCI-X assembly includes:
 - Slot 2: half-length/low-profile PCI-X 133 (note: PCI-X slots are 64 bits; 133 MHz capable)
 - Optional - HTX assembly includes: Slot 1: full-length/full height HTX
- **Management:**
 - IPMI 2.0 support
 - HP ProLiant Lights Out 100i Remote Management support
 - ROM Setup Utility
- **USB Ports:**
 - Four USB ports (two front, two rear)
- **Optical Drive:**
 - Support for one (optional): CD-ROM, DVD-ROM, DVD RW, DVD/CD RW
- **Power Supply:**
 - 650W Power Supply (Non-Hot Plug, Autoswitching)
- **Form Factor:**
 - 1U rack models
- **Deployment/Serviceability:**
 - Tool-less access to all system components for easy in rack serviceability
 - **Warranty:** This product is covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners. Hardware diagnostic support and repair is available for one year from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Additional support may be covered under the warranty or available for an additional fee. Enhancements to warranty services are available through HP Care Pack services or customized service agreements. Certain restrictions and exclusions apply. SATA hard drives have a one year warranty.
 - Server Warranty includes 1 year Parts, 1 year Labor, 1-year on-site support with next business day response. Additional information regarding worldwide limited warranty and technical support is available at:
<http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>

Standard Features

NOTE: For a brief, printer friendly data sheet that describes this product and informs you of the essential capabilities and specifications, please visit: <http://h71028.www7.hp.com/ERC/downloads/4AA0-8885ENW.pdf>
NOTE: For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.

Processor One of the following depending on Model	AMD Opteron™ processor Model 2220 (2.8 GHz (95W)		
	AMD Opteron™ processor Model 2218 (2.6 GHz (95W)		
	AMD Opteron™ processor Model 2216 (2.4 GHz (95W)		
	AMD Opteron™ processor Model 2216 HE (2.4 GHz (68W)		
	AMD Opteron™ processor Model 2214 HE (2.2 GHz (68W)		
	AMD Opteron™ processor Model 2210 HE (1.8 GHz (68W)		
	AMD Opteron™ processor Model 2210 (1.8 GHz (95W)		

Upgradeability	Upgradeable to two processors
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Chipset	ServerWorks HT2100 and HT1000
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Cache Memory	1MB Level 2 cache per core
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Memory Protection	Memory mirroring with Advanced ECC capabilities
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Memory One of the following depending on Model	Type	REG PC2-5300 DIMMs (DDR2-667)	
	Standard (Depending on model)	1 GB	(2 x 512 MB)
		2 GB	(2 x 1 GB)
		4 GB	(2 x 2 GB)
	Maximum	32 GB	(8 x 4 GB)

Network Controller	NC326i PCIe Dual Port Gigabit Server Adapter
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Standard Features

Expansion Slots	Slot Number	Bus Speed	Bus Number*	Device Number**	Hot Plug (Y/N)	PCI Voltage	Notes
	1	x16 PCI-Express	3	0	No	3.3 volts	Full length, full height
	1	HTX	9	1	No	3.3 volts	Full length, full height
	2	x4 PCI-Express	6	0	No	3.3 volts	Low Profile
	2	4-bit, 133MHz PCI-X	2	1	No	3.3 volts	Low Profile

* Default bus assignment. Inserting cards with PCI bridges may alter the actual bus assignment number.

** Slots are enumerated differently based on OS. MS OS's enumerate from lowest to highest Device ID by bus (starting with the lowest bus).

Storage Controller	Non-Hot Plug SATA Models	HP Embedded SATA Controller
	Hot Plug SATA/SAS Models	HP 8 Internal Port SAS HBA with RAID 0,1

NOTE: A diskette drive is needed to install storage controller drivers during a Windows operating system installation from CD.

Storage	Optical Drives:	
	DVD-ROM	8x IDE (ATAPI) DVD-ROM drive, slim (optional)
	DVD/CD RW	24x IDE (ATAPI) CD-ROM drive (optional)
	Diskette Drives	Via USB only
	Drive Bays:	
	Non-Hot Plug SATA	Up to 2 non-hot plug SATA 3.5" drives
	Hot-Plug SATA/SAS	Up to 2 hot plug SATA /SAS 3.5" drives

Maximum Internal Storage	Non-Hot Plug SATA	1TB	2 x 500GB
	Hot Plug SATA	1.5TB	2 x 750GB
	Hot Plug SAS	600GB	2 x 300GB
	Non-Hot Plug SAS	600GB	2 x 300GB

Standard Features

Interfaces	Parallel	None
	Network RJ-45(Ethernet)	NC326i PCIe Dual Port Gigabit Server Adapter
	Serial	1
	Pointing Device (Mouse)	1
	Graphics	1
	Keyboard	1
	USB	4 (two front; two rear) NOTE: Please see the following URL for additional information regarding USB support: http://h18004.www1.hp.com/products/servers/platforms/usb-support.html .
<hr/>		
Graphics	<ul style="list-style-type: none">● 32MB shared graphics memory<ul style="list-style-type: none">○ 1600x1200x16M maximum resolution	
<hr/>		
Form Factor	Rack Mount (1U), (1.75 in/4.45 cm)	
<hr/>		
Server Management Stand Alone Software Product and ProLiant Essentials	HP Systems Insight Manager	HP Systems Insight Manager (HP SIM) provides a unified, secure and extensible standards-based environment to centrally manage servers, storage and other infrastructure devices, (both HP and non-HP) across multiple operating system platforms.
	ProLiant Essentials Rapid Deployment Pack	Rapid Deployment Pack (RDP) extends HP Systems Insight Manager with a complete deployment solution for HP ProLiant servers. RDP provides a central location to configure server hardware, deploy Windows, Linux and VMware ESX operating environments and install HP ProLiant Support Pack drivers using images and scripted profiles. For more information, visit: http://www.hp.com/go/rdp NOTE: Flexible and volume quantity license kits are available for ProLiant Essentials Value Packs. Refer to: http://www.hp.com/servers/proliantessentials or the various ProLiant Essentials Value Pack product QuickSpecs for more information.
	HP Lights-Out 100i Remote Management	HP Lights-Out 100i Remote Management delivers affordable, entry level remote management capabilities for HP ProLiant 100 Series servers with embedded LO100i. It allows customers or their service providers to remotely manage ProLiant 100 Series servers remotely over a LAN or the Internet and consists of the following: <ul style="list-style-type: none">● LO100i Standard is embedded remote management and provides basic remote control via telnet, browser, and IPMI 2.0 and SMASH● LO100i Select Pack License are upgrades for essential, secure, remote control, serial console and virtual media● LO100i Advanced Pack License are upgrades for all the features of LO100i Select plus Virtual KVM (graphical hardware-based, remote console)

Standard Features

Core Infrastructure Management

Subscriber's Choice

Subscriber's Choice Driver and Support Alerts/Notifications is a web-based email subscription service that provides software and driver change notifications for ProLiant products. Sign up at:

<http://www.hp.com/go/subscriberschoice>

and customize your profile to receive various new alerts as they become available, on a weekly or monthly basis.

ROMPac software and latest drivers

The latest software, drivers, and firmware fully optimized and tested for your ProLiant server and options, available through ProLiant Support Packs or downloaded from software and drivers download pages website at:

<http://www.hp.com/go/support>.

Industry Standard Compliance

ACPI V2.0 Compliant

PCI 2.2 Compliant

PXE Support

WOL Support

Microsoft® Logo certifications

IPMI 2.0 Compliant

Manageability

HP ProLiant Lights Out 100i Remote Management standard

Security

Power-on password

Setup password

UPS and PDU Power Cord Matrix

Please see the UPS and PDU cable matrix that lists cable descriptions, requirements, and specifications for UPS and PDU units:

<http://h18004.www1.hp.com/products/servers/proliantstorage/power-protection/index.html>.

Power Supply

650 Watts, auto-switching, PFC (Power Factor Correcting)

System Fans

3 system fans ship standard; Non-hot plug, Non-redundant

Standard Features

OS Support

Microsoft Windows 2003 and Microsoft Windows 2003/R2 Standard Edition (32-bit)
Microsoft Windows 2003 and Microsoft Windows 2003/R2 Enterprise Edition (32-bit)
Microsoft Windows 2003 and Microsoft Windows 2003/R2 Web Edition (32-bit)
Microsoft Windows 2003 and Microsoft Windows 2003/R2 for Extended Systems Standard Edition (64-bit)
Microsoft Windows 2003 and Microsoft Windows 2003/R2 for Extended Systems Enterprise Edition (64-bit)
Microsoft Windows Server 2008
Red Hat Enterprise Linux
SUSE Linux Enterprise Server

NOTE: For more complete and up-to-date information of all supported OSes for ProLiant, certification information and how to buy server operating systems from HP please visit the OS product site at:

<http://h18004.www1.hp.com/products/servers/software/OEM.html>

NOTE: For an up-to-date listing of the latest software and drivers available for your server, please select your server: [http://h20000.www2.hp.com/bizsupport/TechSupport/Product.jsp?](http://h20000.www2.hp.com/bizsupport/TechSupport/Product.jsp?lang=en&cc=us&taskId=135&prodTypeId=15351&prodCatId=241435..)

[lang=en&cc=us&taskId=135
&prodTypeId=15351&prodCatId=241435..](http://h20000.www2.hp.com/bizsupport/TechSupport/Product.jsp?lang=en&cc=us&taskId=135&prodTypeId=15351&prodCatId=241435..)

Rack Airflow Requirements

Rack 10000 series Cabinets

The increasing power of new high-performance processor technology requires increased cooling efficiency for rack-mounted servers. The 10000 Series Racks provide enhanced airflow for maximum cooling, allowing these racks to be fully loaded with servers using the latest processors.

CAUTION: If a third-party rack is used, observe the following additional requirements to ensure adequate airflow and to prevent damage to the equipment:

Front and rear doors: If your 42U server rack includes closing front and rear doors, you must allow 5,350 sq cm (830 square inches) of hole evenly distributed from top to bottom to permit adequate airflow (equivalent to the required 64 percent open area for ventilation).

Side: The clearance between the installed rack component and the side panels of the rack must be a minimum of 7 cm (2.75 inches)

CAUTION: Always use blanking panels to fill all remaining empty front panel U-spaces in the rack. This arrangement ensures proper airflow. Using a rack without blanking panels results in improper cooling that can lead to thermal damage.

NOTE: For additional information, refer to the Setup and Installation Guide or the Documentation CD provided with the server, or to the server documentation located in the Support section at the following URL: <http://h18000.www1.hp.com/products/servers/proliantDL145/index.html>

Telco Rack Support

Telco Rack Kit:

Support for all 2-post Telco racks requires the use of the standard rack kit and an additional option kit from Rack Solutions.

<http://www.racksolutions.com/hp>

Standard Features

HP Factory Express Capability

HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HP products supported through Factory Express include a wide array of servers and storage: HP Integrity, HP ProLiant, HP ProLiant Server Blades, HP BladeSystem, HP 9000 servers as well as the MSAxxx, VA7xxx, EVA, XP, rackable tape libraries and configurable network switches.

For more information on Factory Express services for your specific server model please contact your sales representative or go to: <http://www.hp.com/go/factory-express>.

HP Enterprise Configurator

The HP eCo-Enterprise Configurator now provides factory default racking for our HP hardware portfolio. This approach is aligned with our strategic direction to meet the needs and expectations of our valued customers. If you require "custom" rack configuration, please contact HP's Customer Business Center or an Authorized Partner for assistance.

Service and Support

HP Care Pack Services provide total care and support expertise with committed response designed to meet your IT and business needs.

HP Care Pack services include coverage for the HP branded hardware options qualified for the server that are purchased at the same time or afterward and internal to the enclosure. It also includes the 22" and smaller external monitors and tower UPS options up to 3kVA. These items will be covered at the same service level and for the same coverage period as the server. Coverage of UPS Battery is not included and standard warranty terms & conditions apply. For servers or storage systems installed within a rack, service also covers all HP qualified rack options installed within the same rack.

To fully capitalize on your HP ProLiant servers' capabilities requires a service partner who thoroughly understands your server technology and systems environment. HP Services, an industry leader in provision of multi vender support solutions provides a range of support services designed to meet the varying needs of business. Whether an SMB or large global corporation HP has a ProLiant server support offer to help you speedily deploy and maximize system uptime.

Recommended Service - Simplify ProLiant solution implementation, maintenance and management.

- **Support Service** -3 Year, 9x5 Next Business Day coverage, excluding HP holidays only
- **Deployment Service** - Hardware Installation only

Enhanced Service - Optimize service level to increase IT performance and availability

- **Support Service** - 3 Year 13x5 Same Business Day, 4-Hour response coverage
- **Deployment Service** - Installation and Start-up only

Installation & Start-Up of a ProLiant server and Microsoft or Linux O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays.

For a complete listing of service offerings and information visit:

<http://www.hp.com/services/proliantservices>

<http://www.hp.com/go/proliant/carepack>

HPC Interconnects

NOTE: High Performance Computing (HPC) interconnect technologies are available for the DL145 under the Cluster Platform product portfolio. These high-speed interconnects are fully supported by HP when they are part of these configure to order clusters. Solutions can be defined with a lot of flexibility with the help of configuration tools. Please visit the following URL to configure HPC Clusters with InfiniBand, Gigabit Ethernet or Myrinet Interconnects: <http://www.hp.com/techservers/clusters/ucp/index.html>

HPC Interconnects	InfiniBand	PCI-X and PCI-Express adapters
	Gigabit Ethernet	Use embedded ports
	Myrinet XP	PCI-X Rev D, Rev E and Rev F adapters

Models

Non Hot Plug Serial ATA (SATA) Models

HP DL145G3 2218 2.6 GHz 2 GB (1P) 411596-001	Processor(s)	(1) AMD Opteron™ processor Model 2218 (2.6 GHz (95W))
	One of the following depending on model	(1) AMD Opteron processor Model 2214 HE (2.2 GHz (68W)) (1) AMD Opteron processor Model 2210 HE (1.8 GHz (68W))
HP DL145G3 2214 HE 2.2 GHz 2 GB (1P) 411593-001	Cache Memory	1 MB Level 2 cache per core
	Memory	1 GB (2 x 512 MB) Registered PC2-5300 DDR2 DIMMs (667 MHz) with Advanced ECC capabilities
HP DL145G3 2210 HE 1.8 GHz 1 GB (1P) 411592-001	One of the following depending on model	2 GB (2 x 1 GB) Registered PC2-5300 DDR2 DIMMs (667 MHz) with Advanced ECC capabilities
	Network Controller	NC326i PCIe Dual Port Gigabit Server Adapter
	Storage Controller	HP Embedded SATA Controller
	Hard Drive	80 GB NHP SATA HDD
	Internal Storage	1TB maximum (2 x 500 GB Non-Hot plug 3.5" SATA hard drives)
	Optical Drive	Optional CD/DVD-ROM, DVD/CD RW
	Form Factor	Rack Mount (1U)

Hot Plug Serial ATA (SATA)/Serial Attached SCSI (SAS) Models

HP DL145G3 2220 2.8 GHz 4 GB (1P) 440719-001	Processor(s)	(1) AMD Opteron™ processor Model 2220 (2.8 GHz (95W))
	One of the following depending on model	(1) AMD Opteron processor Model 2218 (2.6 GHz (95W)) (1) AMD Opteron processor Model 2214 HE (2.2 GHz (68W))
HP DL145G3 2218 2.6 GHz 4 GB (1P) 411599-001	Cache Memory	1 MB Level 2 cache per core
	Memory	2 GB (2 x 1 GB) PC2-5300 DDR2 DIMMs (667 MHz) with Advanced ECC capabilities
HP DL145G3 2214 HE 2.2 GHz 2 GB (1P) 411597-001	One of the following depending on model	4 GB (2 x 2 GB) PC2-5300 DDR2 DIMMs (667 MHz) with Advanced ECC capabilities
	Network Controller	NC326i PCIe Dual Port Gigabit Server Adapter
	Storage Controller	HP 8 Internal Port SAS HBA with RAID
	Hard Drive	None ship standard (up to 2 Hot Plug SATA or SAS drives supported)
	Internal Storage	1.5TB max. (2 x 750 GB Hot Plug 3.5" SATA hard drives) or 600 GB (2 x 300 GB Hot Plug 3.5" SAS hard drives)
	Optical Drive	Optional CD/DVD-ROM, DVD/CD RW
	Form Factor	Rack Mount (1U)
	Availability	Hot Plug Hard Drives

Configuration Information - Factory Integrated Models

NOTE: This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for additional information. Contact your local sales representative for information on CTO product offerings and requirements.

NOTE: HP does not allow factory integration of options into standard models listed above.

Configure-to-order servers must start with a CTO Chassis.

NOTE: This product offering does not support HP Factory Express Server Configuration Level 1.

NOTE: FIO indicates that this option is a Factory Installable Option.

Step 1: Base Configuration

Non-Hot Plug Model

HP ProLiant DL145 G3 Non- Hot Plug SATA Rack Chassis

411588-B21

Factory Integrated Model ships with:

NC326i PCIe Dual Port Gigabit Server Adapter

Two available PCI-Express slots, including one full-length/full height and one low-profile/half height slot

HP Embedded SATA Controller

650 Watt Power Supply

3 Non-Hot Plug Blowers

Rack (1U), (1.75 in / 4.45 cm)

Hot Plug Model

HP ProLiant DL145 G3 Hot Plug SATA/SAS Rack Chassis

411590-B21

Factory Integrated Model ships with:

NC326i PCIe Dual Port Gigabit Server Adapter

One available PCI-Express slot, (full-length/full height), the low-profile/half height slot houses the SATA/SAS storage controller

One HP 8 Internal Port SAS Host Bus Adapter with RAID

One HP SATA/SAS Host Cable Kit

One Hot Plug Backplane Option Kit

650 Watt Power Supply

3 Non-Hot Plug Blowers

Rack (1U), (1.75 in / 4.45 cm)

Configuration Information - Factory Integrated Models

Step 2: Choose Required Options (only one of the following from each list unless otherwise noted)

Base Processors	AMD Opteron™ processor Model 2220 (2.8 GHz (95W)	440721-L21
	NOTE: If 2 processors are desired, select one 440721-L21 and one 440721-B21.	
	AMD Opteron™ processor Model 2218 - 2.6 GHz (95W)	411606-L21
	NOTE: If 2 processors are desired, select one 411606-L21 and one 411606-B21.	
	AMD Opteron™ processor Model 2216 - 2.4 GHz (95W)	435014-L21
	NOTE: If 2 processors are desired, select one 435014-L21 and one 435014-B21.	
	AMD Opteron™ processor Model 2216 HE - 2.4 GHz (68W)	411616-L21
	NOTE: If 2 processors are desired, select one 411616-L21 and one 411616-B21.	
	AMD Opteron™ processor Model 2214 HE - 2.2 GHz (68W)	411605-L21
	NOTE: If 2 processors are desired, select one 411605-L21 and one 411605-B21.	
	AMD Opteron™ processor Model 2212 - 1.8 GHz (95W)	411615-L21
	NOTE: If 2 processors are desired, select one 411615-L21 and one 411615-B21.	
	AMD Opteron™ processor Model 2210 HE - 1.8 GHz (68W)	411604-L21
	NOTE: If 2 processors are desired, select one 411604-L21 and one 411604-B21.	

Base Memory	1 GB PC2-5300 DDR2 (2 x 512 MB) Kit, single rank	408850-B21
	2 GB PC2-5300 DDR2 (2 x 1 GB) Kit, single rank	408851-B21
	4 GB PC2-5300 DDR2 (2 x 2 GB) Kit, dual rank	408853-B21
	8 GB REG PC2-5300 (2 x 4 GB) Kit, dual rank	408854-B21

Hard Drives	Serial-ATA (SATA) Non-Hot Plug Hard Drives (Non-Hot Plug Models Only)	
	HP 80GB 1.5G SATA 7.2K NHP 3.5" HDD	383410-B21
	HP 160GB 1.5G SATA 7.2K NHP 3.5" HDD	411275-B21
	HP 250GB 1.5G SATA 7.2K NHP 3.5" HDD	411276-B21
	HP 500GB 1.5G SATA 7.2K NHP 3.5" HDD, FIO*	404469-B21
	*Factory Integrated Only	
	Serial-ATA (SATA) Hot Plug Hard Drives (SATA/SAS Hot Plug Models Only)	
	HP 80GB SATA 7.2K Hot Plug 3.5" HDD	349237-B21
	HP 160GB SATA 7.2K Hot Plug 3.5" HDD	349238-B21
	HP 250GB SATA 7.2K Hot Plug 3.5" HDD	349239-B21
	HP 500GB SATA 7.2K Hot Plug 3.5" HDD	395473-B21
	HP 750GB SATA 7.2K Hot Plug 3.5" HDD	432341-B21
	Serial-Attached SCSI (SAS) Hot Plug Hard Drives (SATA/SAS Hot Plug Models Only)	
	HP 72GB 3G SAS 15K 3.5" DP HDD	384852-B21
	HP 72GB SAS 15K Hot Plug 3.5" SP HDD	375870-B21
	HP 146GB 3G SAS 15K 3.5" DP HDD	384854-B21
	HP 146GB SAS 15K Hot Plug 3.5" SP HDD	375872-B21
	HP 300GB 3G SAS 15K 3.5" DP HDD	416127-B21
	HP 300GB SAS 15K Hot Plug 3.5 SP HDD	431944-B21
	NOTE: The purchase of SAS HBA or array controller is required.	

Configuration Information - Factory Integrated Models

Storage Controller	HP SC44Ge Host Bus Adapter	416096-B21
	HP 8 Internal Port SAS HBA with RAID	347786-B21
	NOTE: For use with Hot Plug SATA/SAS models only	
	NOTE: The selection of the HP 8 Internal Port SAS HBA with RAID requires the purchase of the PCI-X Riser Option kit (P/N 411625-B21)	
	HP SATA/SAS Host Cable Kit	389650-B21
	NOTE: For use with Hot Plug SATA/SAS models only	
	HP Smart Array E500/256MB Controller	435129-B21
	NOTE: Selection of the E500 with the E200 will prevent installation of the E500 battery-backed write cache module.	
	HP Smart Array E200/128 BBWC Controller	411508-B21
	NOTE: Selection of the E500 with the E200 will prevent installation of the E500 battery-backed write cache module.	
	HP HTX Riser Board Kit	411627-B21
	HP PCI-X Riser Board Kit	411625-B21
	Hot Plug Backplane Option Kit	411623-B21
	HP Single Channel U320 SCSI Controller	374654-B21
	NOTE: The selection of the 64-Bit/133-MHz Single Channel Ultra 320 SCSI HBA G2 requires the purchase of the PCI-X Riser Option kit (P/N 411625-B21)	

Step 3: Choose Additional Options for Factory Integration

NOTE: For additional options, please refer to the "Options" section below. Some options may not be available for factory integration. Please contact an HP sales representative for additional information.

Options

Server Management Stand Alone Software Product – ProLiant Essentials

NOTE: Electronic licensing options are available for Insight Control suites and select ProLiant Essentials software products. Please see the appropriate Insight Control and ProLiant Essentials QuickSpecs for additional information.

Deploy

ProLiant Essentials Rapid Deployment Pack

ProLiant Essentials Rapid Deployment Pack No Media 1-Server License including 1 year of 24x7 Technical Support and Updates 452151-B21

NOTE: This license allows 1 server to be deployed and managed via RDP

NOTE: For additional ProLiant Essentials Rapid Deployment Pack License Kits please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/11053_na/11053_na.html

NOTE: Flexible and volume quantity license kits are available for ProLiant Essentials Value Packs. Refer to: <http://www.hp.com/servers/proliantessentials> or the various ProLiant Essentials Value Pack product QuickSpecs for more information.

NOTE: For more information regarding ProLiant Essentials Software, please see the following URL: <http://www.hp.com/servers/proliantessentials>.

Control

Integrated Lights-Out 100i Select Pack and Advanced Pack

HP Lights Out 100i Select Pack 1-Server License 413111-B21

HP Lights Out 100i Advanced Pack 1-Server License 413115-B21

NOTE: For additional ProLiant Integrated Light-Out Select Pack and Advanced Pack License Kits please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/12087_na/12087_na.html

Processor	AMD Opteron™ processor Model 2220 (2.8 GHz (95W)	440721-B21
	AMD Opteron™ processor Model 2218 - 2.6 GHz (95W)	411606-B21
	AMD Opteron™ processor Model 2216 - 2.4 GHz (95W)	435014-B21
	AMD Opteron™ processor Model 2216 HE - 2.4 GHz (68W)	411616-B21
	AMD Opteron™ processor Model 2214 HE - 2.2 GHz (68W)	411605-B21
	AMD Opteron™ processor Model 2210 - 1.8 GHz (95W)	411615-B21
	AMD Opteron™ processor Model 2210 HE - 1.8 GHz (68W)	411604-B21
Memory (DIMMs)	1 GB REG PC2-5300 2 x 512 MB Single Rank Kit	408850-B21
	2 GB REG PC2-5300 2 x 1 GB Single Rank Kit	408851-B21
	4 GB REG PC2-5300 2 x 2 GB Dual Rank Kit	408853-B21
	8 GB REG PC2-5300 2 x 4 GB Dual Rank Kit	408854-B21

Options

Hard Drives

Serial-ATA (SATA) Non-Hot Plug Hard Drives (Non-Hot Plug Models Only)

HP 80GB 1.5 G SATA 7.2K NHP 3.5" HDD	383410-B21
HP 160GB 1.5 G SATA 7.2K NHP 3.5" HDD	411275-B21
HP 250GB 1.5 G SATA 7.2K NHP 3.5" HDD	411276-B21

NOTE: When purchasing systems with the 500 GB Non-Hot Plug SATA drives, please reference the Configuration Information Section of this QuickSpecs to order via Configuration to Order.

Serial-ATA (SATA) Hot Plug Hard Drives (SATA/SAS Hot Plug Models Only)

HP 80 GB SATA 7.2K Hot Plug 3.5" HDD	349237-B21
HP 160 GB SATA 7.2K Hot Plug 3.5" HDD	349238-B21
HP 250 GB SATA 7.2K Hot Plug 3.5" HDD	349239-B21
HP 500 GB SATA 7.2K Hot Plug 3.5" HDD	395473-B21
HP 750 GB SATA 7.2K Hot Plug 3.5" HDD	432341-B21

Serial-Attached SCSI (SAS) Hot Plug Hard Drives (SATA/SAS Hot Plug Models Only)

HP 72 GB 3G SAS 15K 3.5" DP HDD	384852-B21
HP 72 GB SAS 15K Hot Plug 3.5" SP HDD	375870-B21
HP 146 GB 3G SAS 15K 3.5" DP HDD	384854-B21
HP 146 GB SAS 15K Hot Plug 3.5" SP HDD	375872-B21
HP 300 GB 3G SAS 15K 3.5" DP HDD	416127-B21
HP 300 GB SAS 15K Hot Plug 3.5 SP HDD	431944-B21

NOTE: The purchase of SAS HBA or array controller is required.

Graphic Cards

NVIDIA Quadro FX3500 256MB PCIe	435681-B21
NVIDIA Quadro FX1500 256MB PCIe	435703-B21

NOTE: At this time, these graphic cards are supported on Linux and Windows.

Optical Drives

DVD-ROM Drive (optional)	432878-B21
DVD/CD RW Drive (optional)	432880-B21
Multibay II DVD/CD-RW Combo Drive	PA850A
NOTE: When purchasing the Multibay II DVD/CD-RW Combo Drive, (P/N PA850A), the USB 2.0 Multibay II Cradle (P/N PA509A) is required.	
USB 2.0 MultiBay II Cradle, External	PA509A
NOTE: When purchasing the Multibay II DVD/CD-RW Combo Drive, (P/N 850A), the USB 2.0 Multibay II Cradle, (P/N PA509A) is required.	

Options

Storage Controllers	HP SC44Ge Host Bus Adapter	416096-B21
	HP SC11Xe Host Bus Adapter	412911-B21
	HP 8 Internal Port SAS HBA with RAID	347786-B21
	NOTE: For use with Hot Plug SATA/SAS models only	
	NOTE: The selection of the HP 8 Internal Port SAS HBA with RAID requires the purchase of the PCI-X Riser Option kit (P/N 411625-B21).	
	HP SATA/SAS Host Cable Kit	389650-B21
	NOTE: For use with Hot Plug SATA/SAS models only.	
	HP Smart Array E500/256MB Controller	435129-B21
	NOTE: Selection of the E500 with the E200 will prevent installation of the E500 battery-backed write cache module.	
	HP Smart Array E200/128 BBWC Controller	411508-B21
	NOTE: Selection of the E500 with the E200 will prevent installation of the E500 battery-backed write cache module.	
	HP HTX Riser Board Kit	411627-B21
	HP PCI-X Riser Board Kit	411625-B21
	Hot Plug Backplane Option Kit	411623-B21
	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2	374654-B21
	NOTE: The selection of the 64-Bit/133-MHz Single Channel Ultra 320 SCSI HBA G2 requires the purchase of the PCI-X Riser Option kit (P/N 411625-B21)	

Communications	HP NC110T PCI Express Gigabit Server Adapter	434905-B21
	NOTE: Does not support Windows 2000.	
	HP NC360T PCI Express Dual Port Gigabit Server Adapter	412648-B21
	HP NC364T PCI Express Quad Port Gigabit Server Adapter	435508-B21
	NOTE: Does not support Windows 2000.	
	HP NC373F PCI Express Multifunction Gigabit Server Adapter	394793-B21
	HP NC373T PCI Express Multifunction Gigabit Server Adapter	394791-B21
	HP NC380T PCI Express Dual Port Multifunction Gigabit Server Adapter	394795-B21
	NOTE: Supported on a Full Length-Full Height slot only.	
	HP NC510C PCIe 10 Gigabit Server Adapter	414129-B21
	NOTE: A minimum of 1 gigabyte (1 GB) of server memory is required per each NC510C adapter.	
	HP NC510F PCIe 10 Gigabit Server Adapter	414126-B21
	NOTE: A minimum of 1 gigabyte (1 GB) of server memory is required per each NC510F adapter.	

Options

HPC Specific Options	InfiniBand 4X PCI-E Dual Port Host Adapter	380298-B21
	HP IB 4X DDR PCI-e Dual Port 0 Memory HCA	483513-B21
	HP IB 4X DDR PCI-e Dual Port HCA	448397-B21
	HP IB 4X DDR PCI-e Dual Port HCA	409376-B21
	Myrinet PCI 2XP Rev-E 4MB Network Interface Card	373983-B21
	Myrinet 2XP PCI-X, Fiber F-Series, 2MB NIC	390456-B21
	NOTE: For HPC interconnect adapters please see the HPC Interconnect section of this QuickSpecs.	

Rack Kits	1U Cable Management Arm	365403-B21
	NOTE: Package contains two cable management arms.	

Tape Drives	USB Tape Drives	
	HP StorageWorks 1U USB Rack-Mount Kit with one DAT 72 USB Tape Drive	AG594A
	HP StorageWorks 1U USB Rack-Mount Kit with one DAT 160 USB Tape Drive	AG703A
	Ultrium External Tape Drives	
	HP StorageWorks LTO-1 Ultrium 232 Internal Tape Drive (Carbonite)	DW064A
	NOTE: HP recommends combining this tape drive with the 1U SCSI Rack-Mount kit (A7445B) for a complete rack-mount solution.	
	Rack-Mount Tape Drive	
	HP StorageWorks 1U SCSI Rack-Mount kit	A7445B
	NOTE: The 1U Rack-Mount Kit can support up to (2) half-height tape drives and is compatible with multiple Single-Ended and LVD SCSI tape drives including the DAT 40, DAT 72, DAT 160, DLT VS160, LTO-1 Ultrium 232, LTO-2 Ultrium 448 and LTO-3 Ultrium 920 tape drives.	
	HP StorageWorks 1U USB Rack-Mount Kit	A8007A
	NOTE: The 1U USB Rack-Mount Kit can support up to (2) half-height tape drives and is compatible with the DAT 40 USB, DAT 72 USB and DAT 160 USB tape drives.	
	NOTE: When attaching to an external tape drive, autoloader or library, you must also purchase a HBA	
	NOTE: For a complete listing of HP tape drive offerings supported with the DL145 G3, visit http://www.hp.com/products1/storage/compatibility/tapebackup/ISS/index.html	

Options

HP D2D Backup System	HP StorageWorks D2D110 Backup System	EH880A
	NOTE: 1TB of Disk Storage	
	HP StorageWorks D2D110 Backup System with Data Protector Express Software Kit	EH923A
	NOTE: 1TB of Disk Storage	
	HP StorageWorks D2D120 Backup System	EH884A
	NOTE: 2TB of Disk Storage	
	HP StorageWorks D2D120 Backup System with Data Protector Express Software Kit	EH924A
	NOTE: 2TB of Disk Storage	
	HP StorageWorks D2D130 Backup System	EH950A
	NOTE: 3TB of Disk Storage.	
	HP StorageWorks D2D130 Backup System with Data Protector Express Software Kit	EH951A
	NOTE: 3TB of Disk Storage.	
	HP StorageWorks D2D130 Backup System with LTO-3 Ultrium 920 SAS Tape Drive	EH952A
	NOTE: 3TB of Disk Storage.	
NOTE: Please see the HP D2D Backup Systems QuickSpecs for additional information:		
http://h18000.www1.hp.com/products/quickspecs/12651_na/12651_na.html		

StorageWorks Options

StorageWorks Fibre Channel HBA

NOTE: The following is a list of all Fibre Channel Host Bus Adapters for Windows and Linux. For detailed compatibility information please see:
<http://h18006.www1.hp.com/storage/saninfrastructure/hba.html>

HP StorageWorks 81Q PCI-e FC HBA	AK344A
HP StorageWorks FC2214DC 2 Gb, Dual Port, 64-Bit/133 MHz PCI-X HBA	321835-B21
HP StorageWorks 2 Gb, Single Channel, 133 MHz PCI-X HB	A7388A
HP StorageWorks 2 Gb, Dual Channel, 133 MHz PCI-X HBA	A7387A
HP StorageWorks FC2142SR 4Gb PCI-e HBA	A8002A
HP StorageWorks FC2242SR Dual Channel 4 Gb PCI-e HBA	A8003A
HP StorageWorks FC1142SR 4Gb PCI-e HBA	AE311A
HP StorageWorks FC1242SR Dual Channel 4 Gb PCI-e HBA	AE312A
HP StorageWorks FC2143 4Gb PCI-X 2.0 - to Fibre Channel HBA	AD167A
HP StorageWorks FC2243 Dual Channel 4Gb PCI-X 2.0 HBA	AD168A

StorageWorks SCSI HBA

HP U320e SCSI Host Bus Adapter	AH627A
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NOTE: Recommended Dual Channel Ultra320 SCSI Controller for connecting multi-drive MSL tape libraries to ProLiant servers.

StorageWorks Connection Kit

HP StorageWorks 8Gb Simple SAN Connection Kit	AK241A
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StorageWorks Fibre Channel Switch

HP StorageWorks 8/20q Fibre Channel Switch	AK242A
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Options

USB Options	HP 1GB USB 2.0 Floppy Drive Key	442085-B21
	HP 256MB USB 2.0 Floppy Drive Key	442084-B21
	HP USB-P/S2 Mouse	DC369A
	HP Keyboard (USB) standard 2004	DT528A#
	USB 1.44-MB External Diskette Drive	DC361B

HP KVM Switch Options	HP 1x4 Console Switch	AF611A
	HP PS2 Server Console Cable, 6 foot, 2-Pack	AF612A
	HP USB Server Console Cable, 6 foot, 2-Pack	AF613A
	NOTE: required for supporting USB peripheral	
	NOTE: For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: http://www.hp.com/go/kvm	

HP Serial Console Server Options	HP 16 Port Serial Console Server (worldwide)	AF101A
	HP 48 Port Serial Console Server (worldwide)	AF102A
	Serial Adapter, RJ45-D89 DCE Female, 1-pack	AF103A
	Serial Adapter, RJ45-D89 DCE Female, 8-pack	AF110A
	NOTE: Cat5e cables are required to connect Interface Adapters to Console Switches. Cat5e cables can be found at the following URL: http://www.hp.com/go/kvm	
	NOTE: For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: http://www.hp.com/go/kvm	
	2x1x16 IP Console Switch with Virtual Media	AF601A
	4x1x16 IP Console Switch with Virtual Media	AF602A
	2x16 Server Console Switch with Virtual Media	AF600A
	PS/2 Virtual Media Interface Adapter, 1 pack	AF604A
	NOTE: Requires PS/2 and one USB port on server.	

Service and Support Offerings (HP Care Pack Services)	Hardware Services 4-Hour On-site Service	
	13-Hour x 5-Day Coverage, 3 Years, Electronic	U9509E
	Hardware Services Next Business Day On-Site Service	
	9-Hour x 5-Day Coverage, 3 Years, Electronic	U9508E
	Hardware Services 6-Hour Call to Repair On-Site Service	
	Hardware Installation, Electronic	U9520E
NOTE: For more information, customer/resellers can contact http://www.hp.com/services/carepack		

Memory

NOTE: Memory configurations listed do not apply to "Factory Integrated Models".

HP ProLiant DL145 G3 (all models)

Standard Memory

- 1 GB (2 x 512 MB) PC2-5300 DIMM memory, with Advanced ECC Capabilities memory installed.
- 2 GB (2 x 1 GB) PC2-5300 DIMM memory, with Advanced ECC Capabilities memory installed.
- 4 GB (2 x 2GB) PC2-5300 DIMM memory, with Advanced ECC Capabilities memory installed.

Maximum Memory

Up to 32GB memory is available with the optional installation of PC2-5300 Registered DIMM memory kits. Memory should be installed in pairs and matched for optimum performance.

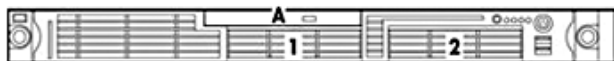
NOTE: Chart does not represent all possible memory configurations.

Memory	Slot							
	1	2	3	4	5	6	7	8
Standard (1 GB)	512 MB	512 MB	Empty	Empty	Empty	Empty	Empty	Empty
Standard (2 GB)	1 GB	1 GB	Empty	Empty	Empty	Empty	Empty	Empty
Standard (4 GB)	2 GB	2 GB	Empty	Empty	Empty	Empty	Empty	Empty
Maximum (32 GB)	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB

Following are memory options available from HP:

1 GB REG PC2-5300 2 x 512 MB Single Rank Kit	408850-B21
2 GB REG PC2-5300 2 x 1 GB Single Rank Kit	408851-B21
4 GB REG PC2-5300 2 x 2 GB Dual Rank Kit	408853-B21
8 GB REG PC2-5300 2 x 4 GB Dual Rank Kit	408854-B21

Storage



- 1,2 Two Non-hot plug SATA or Two 3.5" Hot Plug SATA/SAS Hard Drive Bays
- A Optional CD-ROM, DVD-ROM, DVD/CD RW

Drive Support

Removable Media

	Quantity Supported	Position Supported	Controller
DVD-ROM	Up to 1	3	Integrated IDE (ATAPI) (optional)
DVD/CD RW	Up to 1	3	Integrated IDE (ATAPI) (optional)

Hard Drives

SATA - Non-Hot Plug

	Quantity Supported	Position Supported	Controller
3.5-inch			
80 GB 7,200 rpm	Up to 2	1;2	HP Embedded SATA Controller
160 GB 7,200 rpm	Up to 2	1;2	HP Embedded SATA Controller
250 GB 7,200 rpm	Up to 2	1;2	HP Embedded SATA Controller
500 GB 7,200 rpm	Up to 2	1;2	HP Embedded SATA Controller

SATA/SAS Hot Plug

	Quantity Supported	Position Supported	Controller
3.5-inch	Up to 2	1;2	HP 8 Internal Port SAS HBA with RAID
80 GB SATA 7,200 rpm			
160 GB SATA 7,200 rpm			
250 GB SATA 7,200 rpm			
500 GB SATA 7,200 rpm			
750 GB SATA 7,200 rpm			
SAS Hot Plug	Up to 2	1;2	HP 8 Internal Port SAS HBA with RAID
72 GB SAS 15,000 rpm			
146 GB SAS 15,000 rpm			
300 GB SAS 15,000 rpm			

Storage

Tape Drives and D2D Backup

NOTE: For an up-to-date listing of the latest O/S Support details for each of the Tape Drives listed below, please see the following:
http://h18000.www1.hp.com/products/quickspecs/north_america/10233.html

NOTE: For complete listing of tape drive offerings see
<http://www.hp.com/products1/storage/compatibility/tapebackup/ISS/index.html>
For recommended tape drive offerings for this ProLiant server see the following:

For supported tape drive offerings for this ProLiant server see the following:

	Position Supported	Controller	Controller/HBA Option Kit Part Number
HP StorageWorks USB Tape, External DAT 72 USB DAT 160 USB 1U USB Rack-Mount Kit	External	USB 2.0 Port	N/A
HP StorageWorks SCSI Tape DAT 72 DAT 160 1U SCSI Rack-Mount Kit	External	HP SC44Ge Host Bus Adapter	416096-B21
HP StorageWorks D2D Backup Systems D2D110 D2D120 D2D130	External	Embedded Network Controller	N/A

Power Specifications

Spare Kit	434418-001
Operational Input Voltage Range (Vrms)	90Vac to 264Vac full range at 25oC ambient
Frequency Range (Nominal) (Hz)	47 Hz to 63 Hz
Power Output	650W Nominal
Server Power Cords	High voltage power cord ships standard with all part numbers. NOTE: ProLiant DL servers no longer ship standard with NEMA power cords (187335-001) that allow connection to 110V US wall outlets in a home or office. ProLiant DL servers are primarily connected to PDU's in data center racks so they now ship standard with only a PDU power cord (416151-B21). If a user wishes to power a ProLiant DL server using a 110V receptacle (NEMA-15), the NEMA power cord (187335-001) must be ordered separately.
Standard Power Cord Part Number	307348-B21
Optional Power Cord Part Number	307372-001

Technical Specifications

System Unit	Dimensions (HxWxD)	1.70 x 16.78 x 26.53 in (4.32 x 42.62 x 67.39 cm)	
	Weight (approximate; fully configured)	40 lb (18.14 kg)	
	Input Requirements (per power supply)	Range Input Voltage	90 to 140 VAC/180 to 264 VAC
		Normal Line Voltage	115 or 230 VAC
	Line Frequency	47 to 63 Hz	
	Rated Input Current load	7.1A at 115VAC, 3.6A at 230VAC	
	BTU Rating	BTU-Hr (max configuration)	2371
	Power Supply Output Power (per power supply)	Rated Steady-State Power	650W
	Temperature Range	Operating	50° to 93° F (10° to 35° C)
		Shipping	-40° to 158° F (-40° to 70° C)
	Relative Humidity (non-condensing)	Operating	10% to 90%
		Non-operating	5% to 95%
	Acoustic Noise	Idle (Fixed Disk Drives Spinning)	

L WAd (BELS)

Operating
(Random Seeks to Fixed Disks)

L WAd (BELS) <6.4

Non-Hot Plug SATA Hard Drives	80-GB 7.2K 383410-B21	Capacity	80027 MB
		Height	1.028 in (2.61 cm)
		Width	4.0 in (10.16 cm)
		Interface	SATA 100
		Transfer Rate Synchronous (Maximum)	100 MB/s
		Seek Time (typical reads, including settling)	Single Track
			Average
			Full-Stroke
		Rotational Speed	
		Physical Configuration	Bytes/Sector
			Logical Blocks
		Operating Temperature	41° to 131° F (5° to 55° C)

Technical Specifications

Embedded SATA Controller	Drives Supported	Up to 2 SATA devices
	Channels	2 (SATA Drives)
	Storage Capacity	1.5 TB internal storage
	Data Transfer Method	32-bit/33-MHz PCI bus-master
	Maximum SATA Channel Transfer Rate	100 MB/s per channel
	Maximum Transfer Rate per PCI Bus (peak)	266 MB/s per channel
	Protocols	SATA PIO Mode[0-4]
	Cable	SATA
Internal ATA Connectors		Two SATA Connectors (primary and secondary)

HP 8 Internal Port SAS HBA with RAID (347786-B21)	Drives Supported	Up to 2 SATA/SAS drives
	Channels	8
	Storage Capacity	600 GB
	Data Transfer Method	64-bit/133MHz PCI-X
	Maximum Host Bus Transfer Rate	1.06 Gb/sec
	Maximum SAS transfer rate	300 MB/sec per port
	Protocols Supported	SSP, STP, SMP
	Internal Connectors	2 SAS

NC326i PCIe Dual Port Gigabit Server Adapter	Network Interface	10Base-T/100Base-TX/1000Base-TX
	Compatibility	IEEE 802.3 10Base-T
		IEEE 802.3 1000Base-T
		IEEE 802.3 100Base-TX
	Data Transfer Method	64-bit, 133MHz PCI(X)1.0
	Network Transfer Rate	10Base-T (Half-Duplex) 10 Mb/s
		10Base-T (Full-Duplex) 20 Mb/s
		100Base-TX (Half-Duplex) 100 Mb/s
		100Base-TX (Full-Duplex) 200 Mb/s
		1000Base-TX (Half and Full-Duplex) 2000 Mb/s
	Connector	RJ-45
Cable Support	10Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)
	10/100/1000Base-TX	Category 5 UTP (2 Pair); up to 328 ft (100 m)

Technical Specifications

Environment-friendly Products and Approach

End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: <http://www.hp.com/go/green>. To recycle your product, please go to: <http://www.hp.com/go/green> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <http://www.hp.com/go/green>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

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For hard drives, 1 GB = 1 billion bytes. Actual formatted capacity is less.